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REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed November 2, 2006. In the Office Action, the Examiner notes that claims 1 and 5-8 are pending and rejected. Applicants respectfully note that claims 33 – 35, which depend from claim 1, are also pending in this case.

In view of the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of the claims are now in allowable form.

It is to be understood that Applicants do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the instant response.

Claims 5 and 6 patentable over Eyal/Belknap under §103

The Office Action rejects claims 5 and 6 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,484,199 to Eyal ("Eyal") in view of U.S. Patent No. 6,978,348 to Belknap et al. ("Belknap"). Applicants respectfully note that although the Office Action cites Hunter in the preamble of the rejection, in the body of the rejection the Examiner argues Applicants' claims with respect to Belknap. Therefore, since the body of the rejection does not provide any arguments with respect to Hunter, Applicants assume that the citation of Hunter in the preamble is merely a typographical error. If Applicants' assumption is incorrect the Applicants respectfully request that the Examiner so indicate. The rejection is traversed.

In general, Eyal teaches a streaming media search and playback system for continuous playback of media resources through a network. As taught Eyal, a search request is received of the network to play back media that satisfies one or more search criteria. A plurality of media resources are selected by comparing the search criteria to information associated with the media resources. A set of media resources is established based on the plurality of media resources, and the media resources in the

set of media resources are played back through the network on a network-enabled device. (Eyal, Abstract).

Eyal, however, fails to teach or suggest Applicants' claim 5, as a whole. Namely, as admitted by the Examiner in the Office Action (Pg. 3), Eyal fails to teach or suggest at least the limitation of "pulling a fraction of the SM objects by the HS from the content server, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," as claimed in Applicants' claim 5.

Belknap fails to bridge the substantial gap between Eyal and Applicants' claim 5.

In general, Belknap teaches a multimedia data storage system including a media server that stores multimedia data on a short-term basis and a media archive that stores multimedia data on a long-term basis relative to the media server. The media server operates as a multimedia data cache device for the media archive. The media archive and media server are connected for transmission of media data therebetween. As taught in Belknap, media data is managed by determining a volume of media data stored in the media server and controlling the volume of media data stored in the media server based on user-defined parameters. (Belknap, Abstract).

Belknap, however, alone or in combination with Eyal, fails to teach or suggest Applicants' claim 5, as a whole. Namely, Belknap fails to teach or suggest at least the limitation of "pulling a fraction of the SM objects by the HS from the content server, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," as claimed in Applicants' claim 5.

Rather, Belknap teaches controlling the volume of data stored in a media server based on user-defined parameters. As taught in Belknap, one way in which the volume of data stored in the media server is controlled is by initiating output of a media object from the media server upon request if a portion of a media object is at least a predetermined fraction of the media object. As taught in Belknap, another way in which

the volume of data stored in the media server is controlled is by reducing the volume of data stored by the media server when the volume of media data is greater than an upper capacity volume threshold associated with the media server. As taught in Belknap, still another way in which the volume of data stored in the media server is controlled is using a de-staging process in which media data is transferred from the media server to the media archive.

In each of these ways in which the volume of data stored in the media server is controlled, the volume of media data stored in the media server is reduced. Specifically, the volume of media data stored in the media server is reduced by providing media data stored in the media server from the media server to a media client, providing media data stored in the media server from the media server to the media archive according to the de-staging process, or deleting media data from the media server. For example, using the de-staging process, media data is transferred from the media server to the media archive. Belknap fails to teach or suggest <u>pulling of media data</u> <u>by the media server from the media archive</u> in order to cache the media data for distribution to clients. As such, Belknap fails to teach or suggest "<u>pulling a fraction of the SM objects</u> <u>by the HS from the content server</u>, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," as claimed in Applicants' claim 5.

In the Office Action, the Examiner cites specific portions of Belknap, asserting that the cited portions of Belknap teach Applicants' limitation of pulling a fraction of the SM objects by the HS from the content server. The first portion of Belknap cited by the Examiner (Belknap, Col. 2, Lines 3 – 29), however, fails to teach or suggest Applicants' limitation of <u>pulling</u> a fraction of the SM objects by the HS from the content server. Rather, the cited portion of Belknap merely discloses two ways in which the volume of data stored in the media server is controlled. Specifically, as described hereinabove, the cited portion of Belknap discloses that the volume of data stored in the media server is controlled is by either initiating output of a media object from the media server upon request if a portion of a media object is at least a predetermined fraction of the media

object or reducing the volume of data stored by the media server when the volume of media data is greater than an upper capacity volume threshold associated with the media server. Specifically, the cited portion of Belknap states:

> "According to still another embodiment of the present invention, a method is provided for managing a media server as a cache device for a media archive within a multimedia data storage system. The media server stores media data on a short-term basis, while the media archive stores media data on a long-term basis relative to the media server. The media archive is connected to the media server for transmission of media data therebetween. The inventive method includes determining a volume of the media data stored in the media server and controlling the volume of the media data stored in the media server based on user-defined parameters.
>
> According to yet still another aspect of the inventive method, the media data includes a portion of a media object and the method further includes initiating an <u>output of the media object from the media server</u> upon request if the portion of the media object is at least a predetermined fraction of the media object defined by a first parameter of the user-defined parameters." (Belknap, Col. 2, Lines 3-29, Emphasis added).

In other words, the cited portion of Belknap fails to teach or suggest <u>pulling of media data</u> <u>by the media server</u> <u>from the media archive</u> in order to cache the media data for distribution to clients. Rather, the cited portion of Belknap actually teaches the <u>reverse process</u> of <u>removing media data from the media server</u>, either by outputting a media object from the media server or generically reducing the volume of data stored by the media server. As such, the cited portion of Belknap fails to teach or suggest "<u>pulling a fraction of the SM objects</u> <u>by the HS</u> <u>from the content server</u>, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," as claimed in Applicants' claim 5.

In the Office Action, the Examiner cites specific portions of Belknap, asserting that the cited portions of Belknap teach Applicants' limitation of pulling a fraction of the SM objects by the HS from the content server. The second portion of Belknap cited by the Examiner (Belknap, Col. 6, Line 23 – Col. 7, Line 27), however, fails to teach or suggest Applicants' limitation of <u>pulling</u> a fraction of the SM objects by the HS from the

content server. Rather, the cited portion of Belknap merely describes eight different user-defined parameters which may be used to control the volume of media data stored on the media server. As taught in Belknap, however, each of the parameters is used in order to remove media data from the media server, not to pull media data to the media server. Specifically, the cited portion of Belknap states:

> "The first parameter defines a predetermined fraction of a media object which must be retained within the media server 130 before the output of the media data to the client media output station 110 can be commenced.
>
> The second parameter defines an upper capacity volume which corresponds to a volume of media data that the media server 130 can store internally before a destaging process is commenced. This destaging process transfers the media data from the media server 130 to the media archive 140 so that the media data can be made deletable to make room for other media data as discussed below. In this way, the media data stored in the media server 130 can be reduced.
>
> A third parameter defines the lower capacity volume of the media server 130 which corresponds to a volume of media data that when reached signifies that the destaging process is terminated.
>
> A fourth parameter defines a predetermined period of time that is selected by the user during which the destaging process can be accomplished.
>
> With regard to the destaging process, it is useful to consider the media data stored in the media server 130 as including first and second portions. The first portion of the media data stored in the media server 130 corresponds to a portion of the media data which remains after reduction of the volume of the media data. The second portion of the media data corresponds to a portion of the media data which is to be deleted from the media server 130 during reduction of the volume of the media data stored therein.
>
> According to one aspect of the present invention, the second portion of the media data may be stored in the media archive 140 prior to being deleted from the media server 130 during reduction of the volume of the media data stored therein.
>
> A fifth parameter defines a selection algorithm by which the second portion of the media data is selected for the destaging process. By way of example, the selection algorithm may be based on a first in first out (FIFO) scheme. Alternatively, the selection algorithm may be based on a predefined priority scheme in which each media object included within the

second portion of the media data stored in the media server 130 is selected in accordance with a priority level which is assigned to the media object, the lower priority level media objects being selected first. In this regard, a group of media objects may be assigned a common priority level.

A <u>sixth parameter</u> of the user-defined parameters defines a <u>deletion algorithm by which the second portion of the media data is deleted</u>. By way of example, the deletion algorithm may be based on a scheme in which the least recently used media data is deleted first from the media server. Alternatively, the deletion algorithm may correspond to the priority scheme described above in connection with the selection algorithm.

A <u>seventh parameter</u> of the user-defined parameters defines <u>predefined amounts of the media data, by which the volume of the media data stored in the media server 130 is reduced</u>. By way of example, the volume of the media data stored in the media server 130 may be reduced by 10 gigabytes at a time. Each predefined amount of the media data may be defined as a percentage of the total cache storage of the media server 130. The total cache storage of the media server 130 may be, for example, 800 gigabytes.

In the same vein, an <u>eighth parameter</u> of the user-defined parameters may be employed which defines a <u>predetermined amount of the second portion of the media data stored in the media server 130 which is to be deleted from the media server 130</u>. Byway of example, the second portion of the media data stored in the media server 130 may be deleted 10 gigabytes at a time. Alternatively, the predetermined amount may correspond to a media object or multiple media objects. In this regard, a single media object may correspond to a segment of a television show." (Belknap, Col. 6, Line 23 – Col. 7, Line 27, Emphasis added).

From the cited portion of Belknap, it is clear that each of the eight parameters is used in order to <u>remove media data from the media server</u>, <u>not</u> to <u>pull media data to the media server</u>. The first parameter defines a predetermined fraction of a media object which must be retained within the media server before output of the media data to the media client can be commenced. The other parameters are each used in conjunction with a de-staging process, in which media data is transferred <u>from the media server</u> to a media archive, i.e., in which media data is removed from the media server. As seen from the portion of Belknap cited above, the other parameters associated with the de-staging process define things such as when the de-staging process is commenced and

terminated, percentages of media data moved from the media server to the media archive, and similar parameters of the de-staging process.

In other words, the cited portion of Belknap fails to teach or suggest pulling of media data by the media server from the media archive in order to cache the media data for distribution to media clients. Rather, the cited portion of Belknap actually teaches the reverse process of pushing media data from the media server either to the media clients or to the media archive. A process of pushing media data from a media server to a media archive or simply deleting media data from a media server, as taught in Belknap, is not pulling SM objects by a HS from a content server, as claimed in Applicants' claim 5. As such, Belknap fails to teach or suggest the limitation of "pulling a fraction of the SM objects by the HS from the content server, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," as claimed in Applicants' claim 5.

Therefore, Belknap fails to teach or suggest pulling of media data by the media server from the media archive in order to cache the media data for distribution to media clients. Rather, from the cited portions of Belknap it is clear that Belknap is directed toward reducing the volume of media data in the media server. As such, for at least the reasons discussed hereinabove, Belknap fails to teach or suggest "pulling a fraction of the SM objects by the HS from the content server, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," as claimed in Applicants' claim 5. Thus, Belknap fails to teach or suggest Applicants' claim 5, as a whole.

Since each of Eyal and Belknap fails to teach or suggest "pulling a fraction of the SM objects by the HS from the content server, said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients," any permissible combination of Eyal and Belknap must also fail to teach or suggest "pulling a fraction of the SM objects by the HS from the content server,

said fraction being determined according to the helper hotness category, the HS caching the fractions of each SM object for distribution to a plurality of clients, the HS being interposed between the content server and the clients." Thus, Eyal and Belknap, alone or in combination, fail to teach or suggest Applicants' claim 5, as a whole.

Therefore, claim 5 is patentable over the combination of Eyal and Belknap under 35 U.S.C. §103. Furthermore, claim 6 depends directly from claim 5 and, thus, inherits the patentable subject matter of claim 5, while adding additional elements and further defining elements. Accordingly, claim 6 is also patentable over Eyal and Belknap under §103 for at least the reasons given above with respect to claim 5.

Therefore, the rejection should be withdrawn.

Claim 1 patentable over Eyal, Belknap and Kamel

Claim 1 is rejected under 35 U.S.C. §103(a) as being unptentable over Eyal and Belknap as applied to claim 5, and further in view of U.S. Patent No. 6,061,720 to Kamel et al. (hereinafter "Kamel"). The rejection is traversed.

Claim 1 depends directly from claim 5 and, thus, inherits the patentable subject matter of claim 5, while adding additional elements and further defining elements. Therefore, claim 1 is also patentable over Eyal and Belknap under §103 for at least the reasons given above with respect to claim 5. Accordingly, any attempted combination of the Eyal and Belknap references with any other additional references, in a rejection against the dependent claims would still result in a gap in the combined teachings in regards to the independent claims. As such, Applicants submit that dependent claim 1 is patentable under 35 U.S.C. §103 over Eyal and Belknap as applied to claim 5, and further in view of Kamel.

Therefore, the rejection should be withdrawn.

Claims 7 and 8 patentable over Eyal, Belknap, and Saxena under §103

Claims 7 and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Eyal and Belknap as applied to claim 5, and in further view of U.S. Patent No. 5,805,821 to Saxena et al (hereinafter "Saxena"). Claims 7 and 8 depend directly from claim 5

and, thus, inherit the patentable subject matter of claim 5, while adding additional elements and further defining elements. For the same reasons given above, claims 7 and 8 are patentable over the combination of Eyal and Belknap. Accordingly, any attempted combination of the Eyal and Belknap references with any other additional references, in a rejection against the dependent claims would still result in a gap in the combined teachings in regards to the independent claims. As such, Applicants submit that dependent claims 7 and 8 are patentable under 35 U.S.C. §103 over Eyal and Belknap as applied to claim 5, and further in view of Saxena.

Therefore, the rejection should be withdrawn.

THE SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicants' disclosure than the primary references cited in the Office Action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

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CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and passage of the claims to allowance. If, however, the Examiner believes that there are any unresolved issues requiring any adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Michael Bentley or Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dated: 1/29/07

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